

### **DETAILED ACTION**

#### ***Response to Amendment***

1. The amendment and remarks filed 31 March 2011 are noted with appreciation.
2. Claims 1-54 remain pending.

#### ***Election/Restrictions***

3. Claims 8 and 36 remain withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected species, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 30 September 2010.

#### ***Response to Arguments***

4. Applicant's arguments filed 31 March 2011 have been fully considered but they are not persuasive.
5. Applicant is correct that only claims 6 and 7 recite the phrases *elongate* and *substantially the length of the sample*. Consequently, the rejection of the other claims for this reason is withdrawn. It remains the Primary Examiner's position that the terms are indefinite as explained in the prior Office action. Applicant's traversal — "The skilled person in the art would have little difficulty understanding the scope of these terms in light of the specification. They are to be given their ordinary meaning consistent with the specification. Thus, it is submitted these terms do not cause any indefiniteness." — is merely contradictory and provides no evidence, explanation, etc., by reference to specific portions of the specification (for example), why one skilled in the art would not view these as relative terms and how one skilled in the art would know precisely how

elongate or long the voids must be so that the public may be clearly informed of the boundaries of what constitutes infringement of the patent and so that it is clear what Applicant regards as the invention.

6. Upon further consideration, in claims 20-52, the term *functional material* does not lack antecedent basis.

7. Finally, the Primary Examiner acknowledges that the identical invention is not being claimed and the rejection under 35 USC 101 is withdrawn. The Primary Examiner maintains that the obviousness-type double patenting rejections remain appropriate. A comparison of the claims follows:

<i>Pending Claim 1</i>	<i>Claim 1 of '663 Patent</i>
<p><b>A method of fabricating a metamaterial comprising:</b></p> <p><b>providing a sample of engineered microstructured material comprising one or more voids and configured to transmit electromagnetic radiation;</b></p> <p><b>providing a high pressure fluid comprising at least one <i>functional material</i> carried in at least one carrier fluid;</b></p> <p><b>passing the high pressure fluid through the one or more voids; and</b></p> <p><b><u>causing the <i>functional material</i> to integrate into the engineered microstructured material to form the metamaterial.</u></b></p>	<p><b>A method of fabricating a metamaterial comprising:</b></p> <p><b>providing a sample of <i>elongate</i> engineered microsturcutred material comprising one or more <i>elongate</i> voids <i>running substantially the length of the sample, the sample</i> configured to transmit electromagnetic radiation;</b></p> <p><b>providing a high pressure fluid comprising at least one <i>semiconductor</i> carried in at least one carrier fluid;</b></p> <p><b>passing the high pressure fluid through the one or more voids; and</b></p> <p><b><u>causing the <i>semiconductor</i> to deposit onto one or more surfaces of the one or more voids to form the metamaterial.</u></b></p>

Those portions in **bold** are identical to the two claims. Those portions in *italics* are limitations of the patented claim that narrow (i.e., are species of) broader limitations in

the pending claim. In the case of *elongate* and *running substantially the length of the sample*, these limitations further limit the broader **sample of microstructured material comprising one or more voids and configured to transmit electromagnetic radiation**. In the case of *semiconductor*, this limitation is a species of the broader *functional material*. Finally, those portions underlined are different between the two, but either restate the same limitation or narrow the scope of the patented claim. In the case of the sample, this limitation is implied in the pending claim and is a purely grammatical necessity in the patented claim. In the case of to deposit onto one or more surfaces of the one or more voids, this is a restatement and narrowing of to integrate into the engineered microstructured material. Consequently, the instantly claimed subject matter fully encompasses the subject matter claimed in US '663 such that, in performing the process of US '663 one necessarily performs the process of the instantly pending claims.

#### ***Claim Rejections - 35 USC § 112***

8. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

9. Claims 6 and 7 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

A. These claims remain rejected for reciting *elongate* and *substantially the length of the sample* as set forth under this heading in the prior Office action and as further explained above.

### ***Double Patenting***

10. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

11. Claims 1-7, 9-12, 14-18, 23, 32-35, 37-45, are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-6, 8-15, 20-24, 26-33, and 35, of U.S. Patent No. 7,799,663 B2. Although the conflicting claims are not identical, they are not patentably distinct from each other because the instantly claimed subject matter fully encompasses the subject matter claimed in US '663 such that, in performing the process of US '663 one necessarily performs the process of the instantly pending claims.

***Allowable Subject Matter***

12. Claims 13, 19-22, 24-31, and 46-54, are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Conclusion***

13. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to WILLIAM PHILLIP FLETCHER III whose telephone number is (571)272-1419. The examiner can normally be reached on Monday through Friday, 9:00 AM - 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dah-Wei Yuan can be reached on (571) 272-1295. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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Primary Examiner, Art Unit 1717

20 May 2011